Environmental Assessment
Little Papoose Mine Exploration

Nez Perce-Clearwater National Forests
Lochsa-Powell Ranger District

United States Department of Agriculture Forest Service

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Lochsa-Powell Ranger District
Nez Perce-Clearwater National Forest
Northern Region, USDA Forest Service

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Chapter 1: Purpose and Need for Action

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment conforms to 40 CFR 1500-1508. It is a concise public document that serves to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding that the action will not have a significant effect on the human environment. It includes a brief discussion of the need for the proposal, alternatives, the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

Chapter 1 identifies the purpose and need for the proposed action, the scope of the proposed action, and the decisions to be made.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the North Fork Ranger District in Orofino, Idaho.

A. Introduction

The Lochsa-Powell Ranger District of the Nez Perce-Clearwater National Forest proposes to approve the plan of operations to allow the claimant to continue to map the extent of mineralization on the claims by drilling and trenching roads within the claim. A plan of operation for the Little Papoose Mine was provided by the claimant. The Forest Service must approve it before work can begin. The claims are located in the upper portions of the Imnamatnoon (formerly Papoose) Creek drainage, a tributary to the Lochsa River. It is located in T37N, R13E, Section 12 and T37N, R14E, Section 6 and 7, Boise Meridian, Idaho County, Idaho (*see attached map*).

B. Background

The Little Papoose Claim Group was located by the Larson Group in the early 1960's. Since that time the owners have done extensive trenching, drilling, and started underground development. In 1998, 2001, 2002, 2005, and 2008, the owners were authorized to conduct exploratory drilling and drenching in existing jammer roads under limited 1-year categorical exclusions. In 2010, the claimants were authorized to continue exploration activities under a Decision Notice for five years. The Decision notice expired in 2015 and was extended in 2016.

This proposal is made under the authority of the United States mining laws (30 U.S.C. 21-54), which confer a statutory right to enter upon the public lands to search for minerals. The 1897 Organic Act (16 U.S.C. 479) affirms the public's right to enter, search for, and develop mineral resources on lands open for mineral entry, and authorizes the Forest Service to approve and regulate all activities related to prospecting, exploring, and developing mineral resources.

The Forest Service locatable mining regulations found at 36 Code of Federal Regulations (CFR) 228 A sets forth rules and procedures for use of the surface of National Forest System Lands in connection with mineral operations both on and off mining claims. The regulations direct the

Forest Service to prepare the appropriate level of environmental analysis and documentation when proposed operations may significantly affect surface resources. These regulations do not allow the Forest Service to deny entry or preempt the miners' statutory right granted under the 1872 Mining Law.

C. Purpose and Need

Purpose: The purpose of this analysis is to develop operating conditions and design measures that protect surface resources in response to a request by the Larson Group to conduct trenching and drilling activities over a five year period.

Need: There is need for the Forest Service to approve the Larson Group's Plan of Operations in order to comply with the 1872 Mining Law and the 1897 Organic Act.

Forest Service regulations found at 36 CFR 228.5 states that "a Plan of Operation will be analyzed by the authorized officer to determine the reasonableness of the requirements for surface resource protection." The Forest Service is responsible for the analysis of the Larson Group's Plan of Operations and its approval if the surface resource protection requirements in the Plan of Operations are found reasonable.

D. Determination of Reasonableness of Proposed Activities

Questions sometimes arise as to whether a proposed activity is required for, or reasonably incident to, mining operations conducted under the 1872 Mining Law. The Larson Group have identified a mineral resource, but do not have sufficient information in regards to relative value and workability of the mineralized deposit. The Larson Group's proposal to continue exploration is reasonable and justified based on previous and extensive surface drilling and trenching information gathered over the past 30 years. The Forest Geology and Interdisciplinary Team recommendation that the District Ranger continue to process the submitted Plan of Operations.

Forest Service locatable regulations provide procedures for authorizing operations of the National Forests which are reasonably incidental to mining such as the use of roads and camping areas. The regulations require that such operations be conducted so as to minimize adverse environmental impacts. For a use to be reasonable, the type and level of use must be appropriate to the stage of mining activity in which the operation is engaged (i.e., prospecting, exploration, development, production, abandonment, or reclamation). In turn, the stage of mining activity must also be justified and appropriate, based on the nature and extent of the mineral resource present.

Scope of the Analysis

The scope of the actions addressed in the EA is limited to the proposed action as described in Alternative and the Plan of Operations. The Forest Service has no authority to direct or control activities occurring on non-federal lands. Testing of the extracted material will occur at private facilities located off Forest either in norther Idaho or in western Montana.

The State of Idaho has the authority to issue a license or permit to anybody engaging in mining activities on lands within the State of Idaho, including federal, state, and private lands. The Idaho

Department of State Lands (IDL) issues permits for surface mining activities ranging from a Small Miners Exclusion to an Operating Permit.

The Idaho Department of Environmental Quality (IDEQ) is charged with protection of water quality under the Clean Water Act. IDEQ reviews all permit applications as part of the permitting process and provides feedback and conditions to the IDL. Another permit that is required for the Proposed Action is the securing of a water right from the Idaho Department of Water Resources, and possibly an Air Quality Permit from IDEQ. The Larson Group has obtained a water right for a spring near an existing adit in 2007.

The Lochsa-Powell District Ranger is the official responsible for analyzing the proposed plan as it relates to activities on Forest Service administered lands and in accordance with 36 CFR 228.5. The decision before the District Ranger is whether or not to approve the Plan of Operations as submitted or whether to notify the operator that changes in or additions to, the plan are deemed necessary to meet the intent of the regulations.

The proposed action would only authorize continued exploration of the claim, and would not authorize any production activities without further NEPA analysis.

E. Public Involvement

The proposal was first listed on the Nez Perce-Clearwater National Forest website (https://www.fs.fed.us/sopa/forest-level.php?110117) in the Schedule of Proposed Actions on October 1, 2017.

On September 7, 2017, 14 scoping letters asking for input on the proposed action were sent to the Nez Perce Tribe and all interested individuals, businesses, organizations, and agencies. A legal notice and requires for public comment appeared in the *Lewiston Morning Tribune* on September 13, 2017. Comments were received from 3 organizations and 1 individual and considered in the analysis.

F. Issues

Issues serve to highlight effects or unintended consequences that may occur from the proposed action and alternatives, giving opportunities during the analysis to reduce adverse effects; all while meeting the purpose and need. Concerns were identified during scoping and set the scope of actions, alternatives, and effects to consider. Additional concerns during the entire planning process have been considered.

The proposed action was developed to meet the purpose and need for action and designed to minimize effects to forest resources. Public comments for this project suggested a possible alternative, and identified several concerns. Comment letters reviewed by the interdisciplinary team included concerns about water quality protection, concerns about activities occurring in PACFISH buffers, effects to threatened wildlife species, Region 1 sensitive, and Clearwater Forest Plan management indicator species (MIS);concerns about fuel and solvent storage, concerns about road use and access, concerns about noxious weeds and invasive species, concern that the agency should require a financial assurance that reclamation would be completed in the

event of abandonment of the sites (bonding), and claim validity. Consideration of these concerns are located in the project file.

G. Regulatory Framework and Consistency

The Little Papoose Mine Exploration analysis and documentation of effects is consistent with direction described below.

Forest Plan Direction

The Clearwater National Forest Plan (CNFP), as amended, guides all natural resource management activities by providing a foundation and framework of standards and guidelines for National Forest system lands administered by the Nez Perce-Clearwater National Forest. Forestwide management direction relevant to this project is found in the CNFP on pages II-1 through II-40.

The project meets the Clearwater National Forest Plan goal of providing for access to, and the orderly exploration, development and production of minerals and energy resources, while meeting Forest Plan direction for other resources (CNFP, p. II-3).

The project is located within Management Area E1 (timber production) and a very small amount in M2 (riparian). It is consistent with the goals and standards listed for those areas (CNFP, p. III-58, 71). The action would also be consistent with CNFP's soil, water, and mineral standards at the cessation of post-reclamation monitoring (generally 5 years after the completion of revegetation) (CNFP, p. II-27 – 29, II-30 and II-33), which include meeting Idaho State Water Quality Standards and Beneficial Uses.

The CNFP (1987) directs that habitat for Management Indicator Species and old growth dependent species be maintained (p. II-23-24). Habitat for Threatened, Endangered species must be managed in such a way as to contribute to the conservation and recovery of these species. Habitat for Regional Forester Sensitive species must be managed to prevent their listing under ESA. The proposed activities will not remove or negatively affect habitat for any of these species (see project file for Biological Assessment and Evaluation). All of the activities will occur on or near existing roads which do not provide unique habitats for these species. The proposed action is consistent with the 1987 Forest Plan, ESA and the 1995 PACFISH amendment (USFS, 1995).

The CNFP is fairly silent on noxious weeds. It identifies the need to do research, and develop and evaluate probably biological control methods for several species of weeds (Forest Plan II-16). Current weed management on the Lochsa-Powell District includes inventory, chemical, and mechanical treatment, and the use of biological controls as authorized by the Lochsa Weeds Decision Notice (2007).

The proposed action falls under the guidance of the 1872 Mining Law, the Organic Administration Act of 1897, the Multiple Use Mining Act of 1955, and the Forest Service mining regulations at 36 CFR Part 228, Subpart A.

CNFP Water Quality Standards

Water quality standards in the CNFP on pages II-27 – 29 direct that soil and water resources be managed at levels designed to meet Forest management objectives for watersheds as well as meet Idaho State Water Quality Standards. Sediment levels in Imnamatnoon Creek, as measured by cobble embeddedness, meet Forest Plan desired conditions. The project would not affect instream sediment levels due to design features and therefore complies with the water quality standards.

PACFISH standards and guidelines for the Little Papoose Mine Exploration Project are ties to road management activities. The project must be designed so that activities do no retard or prevent attainment of Riparian Management Objectives. Riparian Management Objectives (RMOs) for forested streams include the following stream habitat variables: pool frequency (pools per mile), water temperature, large woody debris, bank stability and width/depth ratio. The project would not affect PACFISH RMOs due to design features including no activities allowed within 50’ of live water.

Watershed and Fisheries Resources Regulatory Framework

All Federal and State laws and regulations applicable to water quality would be applied to the Little Papoose Mine Exploration project, including 36 CFR 219.27, the Clean Water Act, and Idaho State Water Quality Standards, Idaho Forest Practices Act, Idaho Stream Channel Protection Act, and Best Management Practices (BMPs). In addition, laws and regulations require the maintenance of viable populations of aquatic species including the National Forest Management Act (36 CFR 219.19), subsequent Forest Service direction (Fish and Wildlife Policy, 9500-4) and Forest Service manual direction (FSM 2470, 2600).

Endangered Species Act

The U.S. Fish and Wildlife Service provided an updated species list for the Clearwater National Forest on December 30, 2009 (File #103.0000 14420-2010-SL-0088), which contained three listed species that may occur on the Lochsa-Powell Ranger District. They include the Canada lynx, steelhead trout, and bull trout. A Biological Assessment has been completed for the project that documents the project would have “no effect” to any of these species.

National Historic Preservation Act of 1966, as amended

This project complies with the National Historic Preservation Act (NHPA) of 1966, as amended. A cultural resource inventory was conducted for the proposed project. The project area has been surveyed for the presence of cultural resources and none have been found. No impacts to cultural resources are anticipated.

Tribal Rights and Trust Responsibilities

Trust responsibility arise from the United States' unique legal relationship with Indian tribes. It derives from the Federal Government's consistent promise, in the treaties that it signed, to protect the safety and well-being of the Indian tribes and tribal members. The Federal Indian trust responsibility is now defined as a legally enforceable fiduciary obligation, on the part of the

United States, to protect tribal lands, assets, resources, and reserved rights, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. This responsibility requires that the Federal Government consider the best interests of the Indian tribes in its dealings with them and when taking actions that may affect them. The trust responsibility includes protection of the sovereignty of each tribal government (FSM 1563.8b 2).

The Forest Service best serves the Federal Government's trust responsibility by:

- Ensuring Forest Service actions never diminish the rights of Indian tribes and tribal members;
- Ensuring Forest Service program benefits reach Indian tribes and tribal communities;
- Observing and enforcing all laws enacted for the protection of tribal cultural interests;
- Observing the principles of consultation whenever our policies, decisions, or other actions have tribal implications; and
- Treating NFS resources as trust resources where tribal legal rights exist.

American Indian tribes are afforded special rights under various federal statutes: National Historic Preservation Act; NFMA; Archaeological Resources Protection Act of 1979; Native American Graves Protection and Repatriation Act of 1990; Religious Freedom Restoration Act of 1993 (PL 103141); and the American Indian Religious Freedom Act of 1978. Federal guidelines direct federal agencies to consult with tribal representatives who may have concerns about federal actions that may affect religious practices, other traditional cultural uses, or cultural resource sites and remains associated with tribal ancestors. Any tribe whose aboriginal territory occurs within a project area is afforded the opportunity to voice concerns for issues governed by National Historic Preservation Act, Native American Graves Protection and Repatriation Act, or American Indian Religious Freedom Act.

Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments;" Executive Memo, April 29, 1994 "Government-to-Government Relationship;" and Executive Memo, September 23, 2004, "Government-to-Government Relationship" recognize the unique legal relationship between the United States and Indian tribal governments and also direct Federal agencies to have a process to ensure meaningful and timely input by tribal officials.

The Little Papoose Mine Exploration project area is located within ceded lands of the Nez Perce Tribe. These ceded lands are federal lands within the historic aboriginal territory of the Nez Perce Tribe which have been ceded to the United States. In Article 3 of the Nez Perce Treaty of 1855, the United States of America and the Nez Perce Tribe mutually agreed that the Nez Perce retain the following rights:

"…taking fish at all usual and accustomed places in common with citizens of the Territory [of Idaho]; and of creating temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing horses and cattle…"

The Nez Perce-Clearwater National Forests is committed to fulfilling the Forest Service's trust responsibilities to Native Americans, to honoring rights reserved in the Nez Perce Treaty of 1855, and to strengthening the Forests' government-to-government relationship with the Nez Perce Tribe. The Forest Service manages and provides access to ecosystems that support Tribal

traditional practices. The Little Papoose Mine Exploration project will maintain and enhance these opportunities over the long term by repairing roads, providing for safe travel, and enhancing big game wildlife habitat.

H. Decision to Be Made

Lochsa-Powell District Ranger Brandon Knapton is the deciding official for this proposal. The decisions to be made are:

- Whether or not to approve the Larson Group's Plan of Operations which would allow them to continue with exploration work on their claim. If the Plan of Operations is not approved, no other decision is necessary.

- If the Plan of Operations is approved, what mitigation measures, management requirements and monitoring are needed for its implementation?

Chapter 2: Alternatives

A. Alternative Development Process

This chapter describes and compares the alternatives considered during this analysis. Chapter 2 sharply defines the issues and provides a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). Alternatives were developed based upon Forest Plan objectives, National and Regional direction and policy, existing conditions and environmental issues.

B. Alternative 1. No Action

This alternative provides a baseline for comparison of environmental consequences of the proposed action to the existing condition and is a management option that could be selected by the Responsible Official. The results of taking no action would be the current condition as it changes over time due to natural forces.

Under the No Action Alternative, the Plan of Operations would not be approved. The Larson Group would be notified that changes in, or additions to, the plan are deemed necessary to meet the intent of the regulations.

C. Alternative 2. Proposed Action

Under this alternative, the Forest Service would approve the Larson Group's Plan of Operations with the associated design measures. This alternative would fully meet the purpose and need for the project, the 1872 Mining Law and the 1897 Organic Act.

The Proposed activities are as follows:

<u>Geophysical surveys.</u>

A number of different types of geophysical surveys will continue on the property, including Induced Polarization/Resistivity (IP/R), Magnetics, and Gamma Ray Spectrometry.

IP/R surveys will be run along the inner edge of existing roads and will not create any surface disturbance. Signs will be posted along roads to alert vehicles that might be traveling along the roads during the time of the surveys.

Magnetics and Gamma Ray Spectrometry surveys will be run along roads and also will be run along grids independent of the roads. Magnetic and Gamma Ray Spectrometry surveys are not as location sensitive as IP/R surveys and thus can be run with a compass and standard GPS unit versus following a cut line through the forest. Trees will be marked to establish line and station locations that can be recovered at a later date. Magnetic and Gamma Ray Spectrometry surveys will not create any surface disturbance.

Geochemical surveys.

Geochemical surveys include rock chip sampling, soil sampling, and vegetation sampling.

Rock chip sampling will be conducted over the entire property either as bedrock or float samples. Sloughing of overburden and general weathering along road cuts has obscured much of the original bedrock exposed when roads were first constructed. Where the sloughing is extensive, a backhoe will be used to clear the cut-slope face to again expose the bedrock.

Soil samples are run along grids, elevation contour lines, or the inner cut-slope of roads. Samples are collected from a pit dug with a shovel to a depth of about one foot. Chips from the pit that are later washed clean of silt and clay by rains are mapped and compared to the analytical results. Trees will be marked along the survey lines to monument the location of the survey.

Vegetation surveys are run along grids similar to soil samples. Samples consist of small amounts of new growth of certain common plant species that are known to concentrate specific metals of interest. Anomalies are less reliable than soil samples but the technique, when effective, has the advantage of evaluating deeper strata compared to soils. Trees will be marked along the survey lines to monument the location of the survey.

Drilling.

Drilling will be conducted using either reverse circulation or, most likely, core drills.

Reverse circulation drill rigs can be truck-mounted, rubber tire/buggy-style, or track mounted. Field logistics commonly dictate the style of drill that is used, though in practice rig availability can be the deciding factor. The impact of any of the rigs will be minor as all drilling will be conducted on existing roads and construction of pads will not be necessary. However, some truck-mounted rigs, like those that drill off the back, may require a larger pad space especially with angle holes drilled into the hillside. In this case, loose material in the road cut-bank will be removed with a backhoe to create the larger working area. The cut-bank will be re-contoured with the originally removed material and seeded with the appropriate seed mixture when drilling at that site is completed.

Core drill rigs are commonly truck-mounted or skid/platform-mounted. In most cases they are smaller in size than reverse circulation drill rigs. The impact of any of the rigs will be minor as all drilling will be conducted on existing roads.

The Lochsa-Powell Ranger District will be notified when drilling commences and when drilling has been completed. A representative of Little Papoose Mining will be on site to oversee the operations.

Drilling will progress in a logical manner. The placement and depth of each hole will be based on the results of the preceding holes and data obtained from other ongoing geologic testing. In some cases, contemplated drill sites will become abandoned or removed based on the results of a prior hole. In other areas, additional holes may be necessary. Because ongoing geologic studies will improve the understanding of the mineralization on the property, it is requested that an area of influence be given to each site, for example +/- 200', such that a given hole could be drilled anywhere within the area of influence, as long as this does not shift the drill site to within 50' of live water, to an area within an active seep or spring, or conflict with other State of Idaho regulations on drill hole locations. This would allow Little Papoose Mining to maximize its drilling effectiveness by shifting hole placement based on intercept depth or a strike or dip orientation calculated from previous drilling and other geologic testing.

Drilling will follow regulations set forth by the State of Idaho. A drill sump, if required by the Lochsa-Powell Ranger District, will be approximately 5 feet wide, 10 feet long, and 5 feet deep and will be dug into either the fill slope below the road or in the road bed itself, depending of the logistics of the particular site. The completed drill hole will be filled with excess drill cuttings and the upper three feet will be plugged with bentonite or concrete. All proposed holes have been sited a safe distance from live streams. In the event a perched water table is encountered above a second lower aquifer, the entire hole will be plugged at completion. In the event an artesian aquifer is encountered every effort will be made to immediately plug the hole and the Lochsa-Powell Ranger District will be notified.

Water for drilling will be collected from a spring below Adit #1 on Forest Service Road 568-B. If not enough water is available at this location, water will be collected from the small stream a few hundred feet further down Forest Service Road 568-B. A permit to appropriate water from the adit site has been obtained from the State of Idaho (#81-11992). Water will be pumped from a holding tank at the spring to nearby drill holes or pumped into a water truck and then driven to the drill site. An estimated 1000 gallons could be used for drilling per day. A stationary water tank also will be utilized at the spring to store water, if necessary.

Some of the drill holes are sited along Forest Road 568-A, a main travel route between Highway 12 and Papoose saddle. It will be necessary to divert vehicle traffic to Forest Road 569 along Parachute Creek while these holes are drilled. Drill holes also are sited along Forest Roads 568, and 568-B. Forest Road 568/568-A can be used as an alternate to Road 568-B. The Lochsa-Powell Ranger District will be consulted in order to determine the appropriate timing for this part of the program.

Trenching.

Trenching is an important component of the program because there is limited outcrop on the property. As many as 45 trenches are contemplated in this plan. It is emphasized that the present plans are to excavate an average of 10 – 15 of these trenches in any given year.

Trenching will be conducted with a Case 580 rubber-tired backhoe or a Cat 312 excavator. Trenches generally will be excavated along the inner edge of existing roads where bedrock is covered by the least amount of overburden. In some cases trenches will cross the entire road where a cross-section of a particularly oriented structural feature must be exposed for mapping purposes. Based on past experience, trenches will average between 25 feet to 75 feet long, 4 feet wide, and 3 feet deep. Trenches will be kept open only as long as is necessary for adequate mapping and sampling.

Best management practices will be used during excavation to minimize impacts. These will include stockpiling removed soil for use during reclamation, seeding the disturbed sites with a recommended seed mixture at the appropriate time of year, and checking the sites for subsidence and revegetation at a later date.

Most trenches will be excavated along jammer roads, however some of the trenches are sited along Forest Road 568-A, a main travel route between Highway 12 and Papoose Saddle. It will be necessary to divert vehicle traffic to Forest Road 569 along Parachute Creek road while these trenches are excavated. The trenches will be excavated and reclaimed as quickly as possible and not left open overnight or left unattended. Similarly, additional trenches are sited on Forest Roads 568 and 568-B. Forest Road 568/568-A can be used as an alternate to Road 568-B. All efforts will be made to cooperate with the Lochsa-Powell Ranger District as to the time and duration of closures to minimize impacts and to determine the appropriate timing for this part of the program. The Lochsa-Powell Ranger District will be notified in advance of the construction of these trenches, so that appropriate notices can be posted.

Brushing.

Brush along overgrown roads on the mining claims will be removed to allow access for geologic activities. Brushing will be accomplished using either hand tools or mechanized equipment.

The specific roads that are scheduled for clearing for a given season will be selected based on the results of geologic work the previous year. A detailed map showing the locations of the jammer roads scheduled for clearing during each work season will be submitted to the Lochsa-Powell Ranger District for review in the spring of each year before operations are begun.

D. Design Measures

Project design measures are aimed at avoiding specific resource issues. A majority of these are derived from site specific best management practices (BMP) from the Idaho Forest Practices Act.

Drilling and Trenching

Drilling would follow regulations set forth by the State of Idaho.

No drilling or trenching would occur within 50' of any live water, within an active seep or spring, or in areas in conflict with other State of Idaho regulations on drill hole locations.

Drilling and trenching equipment would be washed and cleaned of potential week seeds prior to accessing the property.

Roads on the mining claims would be opened by removing overgrown vegetation using either hand tools or mechanized equipment (a brushing claw mounted on a Cat 312 crawler frame). The Lochsa-Powell Ranger District would be notified when road brushing commences and when it has been completed.

The majority of work would occur along old jammer roads (see map). All drilling would be conducted from existing roads and pad construction would generally not be necessary. However, some truck-mounted rigs may require a larger pad space where angled holes are drilled into the hill side. In this case, loose material in the road cut-bank would be removed with a backhoe to create the larger working area. The cut-bank would be recontoured with the originally removed material and seeded with the appropriate seed mixture when drilling at that site is completed.

A portion of the trees and brush removed from overgrown jammer roads would be placed at the entrance of the road to discourage unauthorized OHV use after activities on that road are completed.

Trenches generally would be excavated along the inner edge of existing roads where bedrock is covered by the least amount of overburden. In some cases trenches would cross the entire road where a certain structural feature must be exposed for mapping purposes.

Some of the drill holes are sited along Forest Road 568-A, a main travel route between Highway 12 and Papoose Saddle. Vehicle traffic would be diverted to Forest Road 569 along Parachute Creek while there holes are drilled. Drill holes are also sited along Forest Roads 568 and 568-B. Forest Road 568/568-A would be used as an alternate to Road 568-B. The Lochsa-Powell Ranger district would be consulted in order to determine the appropriate timing for this part of the program. Signs notifying the public would be put in place.

Water for drilling would be collected from a spring on the mining claim. The claimant already has been issued a permit from the State of Idaho to appropriate water from this site. Water would be pumped from a cistern at the site to nearby drill holes or into a water truck and then driven to the drill site. An estimated 1,500 gallons could be used for drilling per day.

Best management practices would be used during excavation to minimize potential erosion and sedimentation. Erosion and sediment control structures could include straw bale filter fences, mud sumps and down-gradient drainage channels. Dust from the use of roads would be minimized to the extent possible by encouraging efficient operations.

All proposed holes have been sited a safe distance from live streams. If a perched water table is encountered, the hole would be plugged at drilling completion. In the event an artesian aquifer is encountered every effort would be made to immediately plug the hole and the Lochsa-Powell Ranger District would be notified.

If previously undiscovered cultural resources are exposed, operations in that area would cease. Discovered cultural resources would not be disturbed and the Lochsa-Powell Ranger District would be notified.

No land application of wastewater is proposed for the activities.

Safety

Fire suppression equipment would be available on site. It would include a minimum of one hand tool per crew member (shovel, Pulaski, ax, etc.) and one fire extinguisher per vehicle. All gasoline and diesel equipment would be equipped with spark arresters and mufflers.

If hazardous or regulated materials are spilled, measures would be taken to control the spill. The appropriate agencies would be notified. Any spills would be cleaned up immediately and any resulting waste would be transferred off-site in accordance with local, State and Federal regulations. A spill kit and absorbent pads would be maintained on site. All equipment would be in good working order.

Reclamation

No trenches or holes would be left open or unattended overnight and all would be reclaimed after sampling. All sites would be graded, leveled, and reshaped to original contours by the end of the sampling season. The sites would be textured to help prevent erosion and aid revegetation. Available slash would be placed on sloped sites to further limit erosion. All completed drill holes would be filled with excess drill cuttings and the upper 3’ plugged with bentonite or concrete.

Disturbed areas would be seeded with an approved see mixture determined by the Lochsa-Powell Ranger District. Disturbed areas would be monitored for stability and successful revegetation by the claimant.

E. Alternatives Considered but Not Analyzed in Detail

One other alternative was brought forth during the scoping comment period. One individual suggested analyzing an alternative that does not allow trenching or drilling on overgrown roads or in RHCAs. This alternative was dismissed as it prevents the claimant from accessing his claim and does not meet the purpose and need. Forest Service regulations (36 CFR 228A) do not allow the Forest Service to deny access or preempt the miners’ statutory right granted under the 1872 Mining Law. They also state “a Plan of Operations will be analyzed by the authorized officer to determine the reasonableness of the requirements for surface resource protection.” Based on previous drilling and trenching by the claimant in other locations on this claim, the proposed actions are reasonable and surface resources will be protected.

Chapter 3: Affected Environment and Environmental Effects

This chapter provides a summary of the affected environment and the environmental impacts of the alternatives considered in detail. More details regarding the affected environment, conclusion about potential effects and applicable Forest Plan and regulatory direction are available in the fisheries, wildlife, hydrology, and cultural resources specialist report and other supporting documentation cited in those reports.

A. Hydrology

1. Affected Environment

The analysis area for water quality/fisheries is the Imnamatnoon watershed. This area was selected as it includes the project area as well as the area downstream which could potentially experience water quality impacts.

Water Quality

The Imnamatnoon Creek subwatershed drainage is 21 square miles in size and has an average annual stream flow of 61 cubic feet per second (cfs). Elevations range between 3,350 feet and 6,200 feet. Peak flows occur in May and June, with low flows occurring in September and October. Primary impacts within this subwatershed result from the legacy impacts of commercial timber harvest both on Forest Service and on private timber lands within the drainage. Chief among these impacts is the legacy road system built as a temporary road system to support harvest, but still show impacts through increased sedimentation, particularly during cyclical, but infrequent intense winter rain-on-snow events.

Table 1 displays Clearwater Forest Plan, Appendix K standards (1987) and sediment yield percent over natural conditions that occurred in 1992 (Jones and Murphy, 1997). The exploration project has been designed to cause no measurable increase in sediment by following Plan of Operations that limits the scope of disturbance. While there are no There are no Water Quality Limited Streams (WQLS) listed in the Idaho Department of Environmental Quality (IDEQ) 2008 integrated 303(d)/305(b) report listed for sediment. Imnamatnoon does not meet Forest Plan desired conditions as measured by cobble embeddedness or as estimated by available Forest data on condition (Table 1).

Table 1 – Sediment Yield Information

Subwatershed 6th field HUC	Forest Plan Watershed	Forest Plan standard, Appendix K	Sediment Yield Percent Over Natural		Meets FP standard for sediment, Appendix K
			Forest Plan standard, Appendix K	Existing condition [1] (1997)	
Imnamatnoon	Papoose[2]	*B channel type, steelhead, high fish*	55	40	No[2]

[1]Clearwater National Forest, Watershed Condition Report (Jones and Murphy 1997). WATBAL derived number based on the disturbance history and natural sensitivity of the watershed. Includes impacts from fire, roads, and logging.

Imnamatnoon Creek was formally called Papoose Creek. A changed condition assessment was completed for Papoose Creek in 1996 due to flood events in 1995/1996. It was determined that the stream was significantly altered by the landslide events and was determined to be out of equilibrium. Although this event was 18 years ago and the stream has since stabilized, for the intents of this analysis it will be considered to not be meeting Forest Plan standard and extensive restoration work has been completed on many of the Forest Service managed parcels.

Roads are often a source of sediment to streams, particularly at culvert inlets where cutslope slumping occurs, native surface roads, and roads in need of more drainage structures. Within the Imnamatnoon Creek subwatershed, there are 63 miles of system road, with a road density of 3.0 mi/mi2.

Watershed condition ratings based on road densities indicate that the subwatershed is in a moderate condition. A watershed in high (good) condition generally has a road density of < 1 mi/mi^2. Watersheds with 1 to 3 mi/mi^2 are rated as moderate and >3 mi/mi^2 are rated as low (poor) condition (NOAA 1998). The Imnamatnoon Creek subwatershed is rated as having a moderate condition based on road density.

2. Environmental Consequences

Alternative 1: No Action

Direct and Indirect Effects:

There would be no direct or indirect effects to water quality or fisheries from the No Action alternative.

Cumulative Effects

Since there are no planned activities with this alternative, there can be no cumulative effects resulting from past, present, and foreseeable activities in combination with this alternative.

Alternative 2: Mining Exploration

Direct and Indirect Effects:

All proposed drilling and trenching sites are within abandoned road prisms and are surrounded by vegetation in the form of grasses, shrubs, and/or trees which provide buffers that would reduce any sediment created by the trenching/drilling activities. The vegetated buffers will also provide protection against stream temperature increases.

Drilling and trenching activities would occur in one location within 100' from the East Fork Imnamatnoon Creek. There is a heavily vegetated buffer, shrubs and trees, between the site and the stream. Brushing the currently vegetated roads open would not increase sedimentation where no stream crossings are present. On the non-system spur tributary to FSR #568B, the trenching and drill sites have the potential to interact with the stream channel because of the flow at the crossings with the tributaries of East Fork Imnamatnoon (Figure 2). The remainder of the proposed drilled sites will have limited connection with live water, the distance from water and the vegetation adjacent to the road will mitigate the potential for sediment to reach the stream following the reopening of the brushed in roads for drilling operations.

There would be no direct effects to stream temperature or sediment since no activities will occur in stream channels, seeps or springs.

Indirect effects to stream temperature or instream sediment are not expected to occur. The presence of vegetation in the 50' no trenching/drilling zone would retain all vegetation for temperature control and would capture sediment that may move downhill from the site.

Cumulative Effects

Cumulative effects can only arise from the combination of proposed actions in combination with past, present, and future foreseeable activities. The project would have negligible direct effects and indirect not measurable within the major tributaries of Imnamatnoon Creek. With only negligible direct/indirect effects, there would be no cumulative effects to water quality.

<u>Effectiveness of Mitigation.</u>

Field visits by the Interdisciplinary Team to view previous explorations revealed the Plan of Operations was highly effective at preventing sedimentation into live water from exploration activities (drilling and trenching) and that post-exploration rehabilitation of the sites eliminated long term potential for impact to live water. Best Management Practices to control erosion would also be used to minimize impacts.

B. Water Quality/Fisheries

1. Affected Environment

Water Quality

The Imnamatnoon Creek subwatershed drainage is 21 square miles in size and has an average annual stream flow of 61 cubic feet per second (cfs). Elevations range between 3,350 feet and 6,200 feet. Peak flows occur in May and June, with low flows occurring in September and October. West Fork Imnamatnoon Creek is approximately 10 square miles in size with an annual mean stream flow of 6 cfs where it meets the East Fork. East Fork Imnamatnoon Creek has a drainage area of 4.5 square miles and mean annual flow of 12 cfs.

There are no Water Quality Limited Streams (WQLS) listed in the Idaho Department of Environmental Quality (IDEQ) 2014 Integrated Report. Imnamatnoon meets the designated beneficial uses for cold-water biota and secondary contact recreation.

Imnamatnoon Creek meets Forest Plan water quality objectives for desired conditions for cobble embeddedness (Clearwater Biostudies, 1992).

Aquatic Habitat

The West Fork and mainstem of Imnamatnoon Creek was surveyed by Clearwater Biostudies, Inc. in 1991 and 1992, respectively. The habitat data is 25 years old but is still assumed to be adequate in describing baseline environmental conditions due to the very low amount of timber harvest/road building activities since it was collected. Also there have been no timber harvest activities within designated PACFISH buffers since 1995 so disturbance in these areas has not occurred. There are a minimum of 1,300 acres included within PACFISH buffers in the 13,200 acres analysis area. Twenty-one percent of the watershed contains privately managed timber land (Western Pacific Timber Lands) intermixed with Forest Service lands.

Habitat surveys on the mainstem of Imnamatnoon measured cobble embeddedness, substrate, and salmonid abundance. Rubble and cobble dominates the stream with cobble embeddedness ranging from 18 to 30%, which is within Forest Plan desired conditions. Field observations indicate a low gradient stream channel with stable banks and abundant riparian vegetation including old growth western redcedar trees. The stream is well shaded along most of its length.

The habitat survey for the West Fork Imnamatnoon shows a moderate gradient (5.6%) stream channel dominated by rubble and cobble substrates. Bank stability is excellent and instream wood levels are moderate at 26 pieces per 100 meters of stream. Cobble embeddedness averages 24% which meets Clearwater Forest Plan desired conditions. Other Forest Plan desired conditions (DFCs) for summer and winter rearing, and riparian habitats are not being met due to warmer than preferred stream temperatures, low wood levels, and fair pool quality (due to low amounts of wood). DFC ratings are 70%, 72% and 63%, respectively. Desired conditions are 80% or higher. Alder and mixed conifer species dominate riparian vegetation. Although no surveys have been conducted in the East Fork, aquatic habitat conditions are assumed to be similar to the West Fork.

Aquatic Species

Spring chinook salmon occur only in the lower mainstem of Imnamatnoon Creek. Both the East and West Forks provide suitable spawning and rearing habitat for westslope cutthroat, steelhead, and bull trout. In the West Fork cutthroat, steelhead, and bull trout were observed in high, low, and very low densities, respectively. No data is available for the East Fork but habitat characteristics are similar therefore it is assumed that densities should be similar. Both steelhead and bull trout are listed as Threatened under the Endangered Species Act. Cutthroat, spring chinook, Pacific lamprey, inland redband trout, and western pearlshell mussels are all Regional Foresters Sensitive Species. Pacific lamprey, inland redband trout, and pearlshell mussels are not known to occur in the drainage.

2. Environmental Consequences

Alternative 1: No Action

Direct and Indirect Effects

There would be no direct or indirect effects to water quality or fisheries from the No Action alternative as no activities would occur.

Cumulative Effects

Since there are no planned activities with this alternative, there can be no cumulative effects resulting from past, present, and foreseeable activities in combination with this alternative.

Alternative 2: Proposed Action

Direct and Indirect Effects

Drilling and trenching activities would occur within the road prism in three locations within non-fish bearing buffers of the East Fork Imnamatnoon Creek. The sites are from 70’ to 125’ away from the streams with a heavily vegetated buffer, shrubs and trees, between the sites and the streams. No activities would occur within fish bearing buffers. All sites are surrounded by vegetation in the form of grasses, shrubs, and/or trees which provide buffers that would filter out any sediment created by the trenching activities. They also provide protection against stream temperature increases.

There would be no direct effects to stream temperature or sediment since no activities will occur in stream channels, seeps or springs.

Indirect effects to stream temperature or instream sediment are not expected to occur. The presence of vegetation in the 50’ no trenching/drilling zone would retain all vegetation for temperature control and would capture sediment that may move downhill from the site. Brushing the currently vegetated roads open would not increase sediment since no blading of the road surface would occur. Cut brush would remain on site and would act as a filter to sediment produced from the road. The vegetation on the downhill side of the road would also act as a filter. Trench/drill sites within PACFISH buffers are few and near the outermost edges of the

buffers. Roads leading to them are typically low gradient and vehicle use for an individual road is expected to be limited. If all sites within PACFISH buffers were to be implemented in the same year, a total of about 700' of road would be brushed open in the buffers. This equates to 0.5 acres of the 13,200 acre analysis area. The disturbance is considered negligible. A total of 0.03 acres of PACFISH buffers would be disturbed from trenching activities.

There are no fish at any of the work sites and design features would prevent activities from affecting water quality (temperature or sediment). There would therefore be no direct or indirect effects to ESA listed or sensitive fish species. These design features would meet both Forest Plan and PACFISH goals and standards for minimizing potential increases in temperature or sediment from activities. Best Management Practices to control erosion would also be used to minimize impacts.

Cumulative Effects

Cumulative effects can only arise from the combination of proposed actions in combination with past, present, and future foreseeable activities. The project would have no direct effects and indirect effects expected to be negligible and not measurable. With no direct and only negligible indirect effects, there would be no cumulative effects to water quality or listed or sensitive fish species or their habitat in the West or East Forks of Imnamatnoon Creek.

PACFISH Requirements for Mining Sites within RHCAs:

The project complies with the following PACFISH standards for mining sites within RHCAs:

Roads

Minimize roads in RHCAs-

The proposed roads already exist. No new roads will be constructed.

Meet RMOs-

There would be no effect to RMOs (pool frequency, bank stability, woody debris, width to depth ratios, or water temperature) due to the 50' no activity distance away from water and the lack of disturbance of riparian vegetation.

Design to minimize sediment delivery-

The existing roads proposed for use (jammer and mainline) currently have been designed to minimize sediment delivery into streams. The level of use during mining activities is not expected to increase sediment levels due to these designs and the limited use of the roads. In addition, road surfaces will not be bladed which will minimize potential surface runoff into streams

Minerals

Require a reclamation plan, plan of operation, and reclamation bond-

A plan of operation has been submitted for exploration activities. A reclamation bond is required with this proposal. The activities occur within RCHAs but will not affect the attainment of RMOs, water quality, or listed fish species. Only existing vegetation on the road is proposed for cutting to allow for access to drill and trench sites.

C. Wildlife

1. Affected Environment

The project area is the mining claim on Forest Service land. Most of the Project Area was logged during 1957-1960. The last entry affected four acres in 1985. No wildfires have been recorded in the project area. However, wildfires within a half mile of the project area occurred in 1929, 1960, 2003 and 2017. Vegetation in the project area ranges from shrubfields to mixed age conifer forests.

Private land borders the project area. Two partial sections and one full section lie to the south, west and east of the mining claim. Vegetation ranges from forest to shrubfields; the latter occurring in areas affected by timber harvest or wildfire.

2. Environmental Consequences

Species	Direct and Indirect Effects	Cumulative Effects
Threatened, Endangered, Candidate, or Proposed Species (TES)		
Canada Lynx	No lynx habitat would be affected with this alternative.	*May Affect*, but is not likely to adversely affect the Canada lynx or its habitat.
North American Wolverine	Would not affect habitat, but may disturb a wolverine if it is near activities. Timing of project activities would not occur during periods when snow habitat is available to wolverines.	*Not Likely to Jeopardize* the continued existence of the species or result in destruction/ adverse modification of proposed critical habitat.
Sensitive Species		
Fisher	Fisher habitat would not be affected. Disturbance from man and machine (noise and movement) may disturb or temporarily displace an individual fisher that is present during proposed activities.	*May impact individuals or habitat,* but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population of the fisher.
Gray Wolf	Wolf habitat would not be affected. The proposed activities may disturb or displace wolves and/or	*May impact individuals or habitat*, but will not likely

	their prey base during the period of operations.	contribute to a trend towards federal listing or cause a loss of viability to the population or species of the gray wolf.
Western Toad	May cause harm or fatality to individual toads that cannot evade equipment. The short time period of operations would greatly reduce potential mortality of toads. During the drier portion of the operating season (mid to late summer), toads would have moved to more secluded areas (near or in streams, under woody debris or rocks) to escape the heat, predators and most likely where the machinery does not operate.	*May impact individuals or habitat*, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species for the western toad.
MIS		
American Marten	The work would take place on road prisms, but the surrounding forest has potential for use by marten. Mining activities are brief (less than 2 weeks/year) would disturb or temporarily displace an individual marten that may be present or adjacent to the affected areas.	*May create some effects to individuals or their habitat*, but is not expected to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing of the American marten.
Northern Goshawk	Potential disturbance (noise and movement by man and machine) from project activities may disturb a goshawk near mineral sampling operations.	*May create some effects to individuals or their habitat*, but is not expected to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing of the northern goshawk.
Pileated Woodpecker	The proposed activities would not reduce habitat, as the work would be conducted on road prisms that do not support mature trees. Potential disturbance (noise and movement by man and machine) from project activities may disturb a woodpecker near mineral sampling operations.	*May create some effects to individuals or their habitat*, Woodpeckers that may be displaced would have over 1,100 acres of potential undisturbed nesting habitat in the Legendary Bear Creek HUC.
Rocky Mountain Elk	The proposed activities are confined to a short time span in late spring or early summer, which would not occur in during critical time frames. Proposed activities may disturb an individual elk during the summer operation period.	*May create some impacts to individuals or their habitat*, but is not expected to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing of the Rocky Mountain Elk.
Shiras Moose	The proposed activities would not affect vegetation for moose. Seasonal operations for the 5-year Plan of Operations would be confined	*May create some impacts to individuals or their habitat*, but is not expected to result in a loss

	to a short time span in late spring or early summer, which avoids critical time frames. Proposed activities may disturb an individual moose during the summer operation period.	of viability in the Planning Area, nor cause a trend toward federal listing of the Shiras moose.
Neo-tropical Migratory Birds	The proposed activities would not affect forested areas. Brushing of roads would disturb habitat for birds that depend on shrubs for nesting or foraging. Disturbance from man and machine may displace avian species that are nearby activity areas. Due to the short time frame (2-10 days) of planned activities for each season, and the amount of shrub and understory vegetation present throughout the project area, habitat would remain available for a bird to build another nest if it was displaced by this Alternative.	*Some impacts may occur to individuals or their habitat*, but is not expected to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing.

Please see the project record for the full wildlife report.

D. Archeology

1. Affected Environment

The project area has seen numerous changes in human land use patterns. From its earliest Native American inhabitants who lived in and traveled through the area utilizing its resources, to early trappers and explorers, to the families who homesteaded and settled in the area, to the minerals exploration from the mid-1800s into the early 1900s, the region witnessed several waves of occupation through time. Each group interacted with the environment in their own way, extracting various products and manipulating it to their benefit when possible.

There has been one previous cultural resource survey conducted in the proposed project area. There is one previously documented cultural resource property located within the project area. This property is not eligible for the National Register of Historic Places (NRHP).

2. Environmental Consequences

The two alternatives would have varying effects on the known cultural property that is ineligible for the NRHP.

Alternative 1: No Action

Under Alternative 1 there would be no effect to historic properties. Historic properties would continue to degrade naturally. There would be no change in effects from the current condition.

Alternative 2: Proposed Action

Under Alternative 2, one cultural resource site within the project area has been determined as ineligible for the NRHP. The one site located within the project area is not eligible for the NRHP and therefore no mitigation measures are required (See table 2-1).

Cultural resource surveys were completed during the 2017 field season for the project area and would be submitted to the Idaho State Historic Preservation Office (SHPO) for concurrence prior to project implementation.

Because all project activities would be conducted consistent with the National Historic Preservation Act and the Clearwater National Forest Plan the implementation of these activities would result in "no effect". Thus, there is little potential for project activities to produce or contribute to negative effects that would be cumulative with other actions.

Chapter 4: Other Required Analysis

This is not a major Federal action. It will have limited contest and intensity (40 CFR 1508.270, individually or cumulatively, to the biological, physical, social or economic components of the human environment. It will have no adverse effect upon public health or safety, consumers, civil rights, minority groups and women, prime farm land, rangeland and forestland, roadless areas, or to old growth forest options.

A. Effects of Alternatives on Prime Farmland, Rangeland, and Forest Land

The analysis area does not contain any prime farmlands or rangelands. "Prime" forest land does not apply to lands within the National Forest system. With both alternatives, National Forest lands would be managed with sensitivity to the effects on adjacent lands.

B. Energy Requirements of Alternatives

There are no unusual energy requirements for implementing any alternative.

C. Effects of Alternatives on Minorities and Women

There are no unusual differences among the effects of any alternative on American Indians, women, other minorities, or the civil rights of any American citizen.

D. Environmental Justice

In regard to Environmental Justice Order 12898, the health and environmental effects of the proposed activities would not disproportionately impact minority and low-income populations. There would be no effect from the proposed activities on the treaty rights of the Nez Perce Tribe and local communities.

E. List of Preparers

Interdisciplinary Team Members:

Rebecca Anderson, Team Leader, Geologist
Karen Smith, Fisheries Specialist
Glen Gill, Wildlife Specialist
Becca Lloyd, Soils and Hydrology Specialist
Dan Polito, Archaeology Specialist

Figure 1: Map of Exploration Area